

**Claims:**

1. In a mobile cellular switching network, a method of establishing a cellular call comprising the steps of:

if a traffic channel for a mobile station (MS) is available, establishing said call over the available channel;

if no channel is available, permitting the caller to disconnect while the network waits for a channel to become available;

when a channel becomes available for said call, calling back the caller, and establishing the requested call.

2. The method of Claim 1, wherein prior to having said caller disconnect, the system tests to determine whether the expected wait time for an available channel exceeds a first threshold; and

offering call-back service only for those cases in which the expected wait time exceeds said first threshold.

3. The method of Claim 1, further comprising the step of:

prior to calling said caller back, testing whether the called party is busy;

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if the called party is busy, avoiding the attempt to establish a connection to the called party.

4. The method of Claim 3, further comprising the step of:

returning a busy signal to the calling party.

5. The method of Claim 1, wherein prior to having said caller disconnect, the system tests to determine whether the expected wait time for an available channel exceeds a first threshold;

if the expected wait time for an available channel exceeds a first threshold, offering call-back service to the caller;

if the expected wait time does not exceed a first threshold, the system waits until the lapse of a second threshold smaller than that first threshold; and

if no channel is available after the lapse of the second threshold, offering call-back service to the caller.

6. The method of Claim 1, wherein the step of calling back the caller comprises the step of:

calling back the caller, using a distinctive ringing signal.

7. The method of Claim 1, wherein the service of calling back the caller is offered only to subscribers of that service.
8. The method of Claim 7, wherein subscribers of said service are provided with a default treatment, and wherein subscribers of that service can override the default treatment;
- wherein the default treatment is one of automatic call-back, and no call-back.
9. The method of Claim 1, wherein if the caller originates a new call while waiting for a call-back, the call-back request is canceled.
10. The method of Claim 1, further comprising the steps of:
- retaining a call record of said call during the interval between the time that the caller disconnects and a time when the caller is called back;
- wherein said call record comprises a calling and a called number.
11. In a mobile cellular switching network, apparatus for establishing a cellular call, comprising:

processor means operative under the control of a program for executing the steps of:

if a traffic channel for a mobile station (MS) is available, establishing said call over the available channel;

if no channel is available, permitting the caller to disconnect while the network waits for a channel to become available;

when a channel becomes available for said call, calling back the caller, and establishing the requested call.

12. The apparatus of Claim 11, wherein said processor is further adapted to execute the following steps:

prior to having said caller disconnect, the system tests to determine whether the expected wait time for an available channel exceeds a first threshold; and

offering call-back service only for those cases in which the expected wait time exceeds said first threshold.

13. The apparatus of Claim 11, wherein said processor means further execute the following steps:

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prior to calling said caller back, testing whether the called party is busy;

if the called party is busy, avoiding the attempt to establish a connection to the called party.

14. The apparatus of Claim 13, wherein said processor further executes the following step:

returning a busy signal to the calling party.

15. The apparatus of Claim 11, wherein said processor means is further adapted to execute the following steps:

wherein prior to having said caller disconnect, the system tests to determine whether the expected wait time for an available channel exceeds a first threshold;

if the expected wait time for an available channel exceeds a first threshold, offering call-back service to the caller;

if the expected wait time does not exceed a first threshold, the system waits until the elapse of a second threshold smaller than that first threshold; and

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if no channel is available after the lapse of the second threshold,  
offering call-back service to the caller.

16. The apparatus of Claim 11, wherein for executing the step of calling back the caller, said processor means is further adapted to execute the following step:

calling back the caller, using a distinctive ringing signal.

17. The apparatus of Claim 11, wherein the step of calling back the caller is offered only to subscribers of that service.

18. The apparatus of Claim 17, wherein said subscribers of said service are provided with a default treatment and wherein subscribers of that service can override the default treatment;

said processor is further adapted to execute the following step:

wherein the default treatment is one of automatic  
call-back, and no call-back.

19. The apparatus of Claim 11, wherein said processor means is further adapted to execute the following step:

if the caller originates a new call while waiting for a call-back, the  
call-back request is canceled.

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20. The apparatus of Claim 11, wherein said processor means is further adapted to execute the following steps:

retaining a call record of said call during the interval between the time that the caller disconnects and a time when the caller is called back;

wherein said call record comprises a calling and a called number.

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